

## LIFE HISTORIES OF NORTH AMERICAN GEOMETRIDAE.—LXV.

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*Eois rotundopennata* Packard. The moths differ a little from Packard's description as noted by me (Proc. U. S. Nat. Mus., Vol. XXVII, p. 902-903, 1904.)

*Egg.* Elliptical, flattened above and below, sunken concave toward the depressed end, no truncation, the micropylar end full and rounded. Reticulations large, irregularly hexagonal, raised, sharp and smooth, smaller in the indentation. Cell areas reticular shagreened. Dead leaf brown, the whole of the antemicropylar flattening blackish brown, a less prominent shade in the indentation; size .6 x .45 x .35 mm. Laid more or less in rows obliquely overlapping, the brown end down, its color caused by the brown mucilage with which the eggs are glued on.

*Stage I.* Head rounded, free, dark brownish black, not shining. Body long and slender, curled in S shape, the segments finely annulate, elongated; dark brown; a narrow, straight, distinct white dorsal line, a broader but less distinct substigmatal one; joints ten to thirteen paler and with a white subdorsal line added. Thoracic feet blackish; tubercles small, brown; setae short, capitate, obscure.

*Stage II.* Head squarish bilobed, the lobes slightly conically produced before, dull brown-black with short, scale-like white setae; width .4 mm. Body small, slender, elongate, finely annulate, subventral ridge narrowly prominent, subdentate by the annulets. Dark vinous brown, almost black. A narrow white dorsal line, traces of a subdorsal one at the ends and a more distinct line on the subventral fold, all dotted by the annulets. In dorsal view the segments are cuneiformly widened posteriorly. Thoracic feet black, abdominal ones brown, the anal pair diluted anteriorly. Tubercles and setae minute, the latter scale-like.

*Stage III.* Head highly bilobed, the lobes subconic; brown-black with short white setae; width .6 mm. Body moderately elongate, the segments cuneiform,

the posterior edges almost wing-margined on joints five to nine, finely annulate. Dark blackish brown, dorsal line linear, whitish; traces of waved subdorsal; subventer with white streaks on the fold, the lower subventral area nearly black. Skin black, granular; setae short, white, capitate.

*Stage IV.* Head highly bilobed, the lobes separated by a deep notch but rounded, a strong depression at the apex of clypeus; red brown, mottled and dotted with dark brown; width .9 mm. Body moderate, large for the head, flattened, the segments strongly widened posteriorly, cuneiform in dorsal view, joints eight and nine most widened, the thorax and joints ten to thirteen contracted, all rather finely annulate. Dark blackish brown, slightly variegated in lighter; a pale subdorsal streak on joints ten to thirteen; edge of subventral fold streaked in yellowish white, especially on joints seven, eight, and nine; venter and feet nearly black with a few whitish dots in rows. Skin minutely granular; tubercles obsolete; setae short, pale, swollen, sack-like.

Eggs June 10, a few apparently mature larvae in August, but most of them remained very small and probably normally hibernate. They were fed on *Polygonum*. Larvae from Kaslo, British Columbia.